

REMARKS/ARGUMENTS

Objections to the Specification

Paragraph 3 of the Action objects to the Abstract as originally submitted, alleging that the Abstract as originally submitted contains duplicate sentences. Applicant has reviewed the Abstract and did not find any duplicate sentences. Applicant believes that the term “aperiodic” used in the third sentence may have been misread as “periodic”, the term used in the fourth sentence. In any event, Applicant respectfully requests withdrawal of the objection as the Abstract does not appear to contain duplicate sentences.

Paragraph 4 of the Action objects to the Title as not being descriptive. Applicant has amended the Title as suggested in the Action. Applicant, therefore, respectfully requests withdrawal of the objection to the Title.

Objections to the Claims

Paragraph 5 of the Action objects to claim 14 alleging that the phrase “the stream of data conveying symbols” lacks antecedent basis. Applicant respectfully traverses this objection, because the phrase does in fact have proper antecedent basis. Antecedent basis for the phrase can be found in claim 1, on which claim 14 is dependent, line 4: “. . . dividing a stream of data conveying symbols” Accordingly, Applicant respectfully request withdrawal of the objection.

Claim Rejections Under § 112

Paragraph 7 of the action rejects claims 5-8, and 23 for lack of enablement under 35 U.S.C. § 112, paragraph 1. Applicant respectfully traverses the rejection for at least the reasons stated below.

With regard to claim 5, the Action states that the term "Common Blocks" requires clarification. As explained in the specification, a common code can be used to spread the blocks (34) of an unsread data stream (70) (see page 20, lines 4-6). Use of just a single common code for all users can be achieved by either cyclically shifting the bits of the common code, or delaying the bits of the common code. As illustrated in figure 4, if the common code bits are delayed, or time-shifted, then spread symbols from one block (34) will overlap with spread symbols of an adjacent block (34). Thus, when the parallel streams are combined into a composite signal (46), the composite signal will need to be influenced, for at least some portion of time, by symbols from more than one block to account for the overlap (see page 12, lines 20-32).

Contrastingly, when the common code is cyclically shifted, there is no overlap, as illustrated in figure 11. Thus, when the parallel streams are combined, composite signal (46) need only be influenced by symbols from common blocks (34) as described on page 20, lines 4-16.

Accordingly, Applicant believes that the term "Common Blocks" is sufficiently described in the specification at least in the sections cited above, and that the specification would enable one of skill in the art to practice the invention as claimed. Applicant, therefore, respectfully requests withdrawal of the rejection.

With regard to claim 6, the Action states that the "Combining Activity" is not described in the specification. Applicant respectfully disagrees. The specific combining activity claimed in claim 6 is clearly illustrated and described in figure 12. The combining activity of figure 12 comprises taking a subset P of the M spread substreams and repeating them at, or adding them to, the end of the M spread substreams in order to form a cyclical prefix as described on page 22

of the specification. Thus, the combining step comprise simply repeating the subset P spread substreams at the end of the M spread substreams so that there are M+P spread substream being combined, e.g., in multiplexer (116).

Accordingly, Applicant believes that the "Combining Activity" is sufficiently described in the specification at least in the sections cited above, and that the specification would enable one of skill in the art to practice the invention as claimed. Applicant, therefore, respectfully requests withdrawal of the rejection.

Claims 7 and 8 are rejected because they depend from rejected base claims 5 and 6 respectively. Because claims 5 and 6 are adequately enabled, for at least the reasons cited above, Applicant respectfully request withdrawal of the rejection.

Claim 23 is rejected because the combining section is not adequately described in the specification. The combining section performs the combining activity as claimed in claim 6 and as illustrated in figure 12. The combining activity is adequately described, for at least the reasons described above, and Applicant believes that one of skill in the art would understand from reading the description in conjunction with figure 12 that this activity can be carried out, for example, using multiplexer 116 and the interface configuration between de-multiplexer 112 and multiplexer 116.

Accordingly, Applicant believes that the "Combining Section" is sufficiently described in the specification at least in the sections cited above, and that the specification would enable one of skill in the art to practice the invention as claimed. Applicant, therefore, respectfully requests withdrawal of the rejection.

Paragraph 9 of the action rejects claims 6-7, 12-13, 15, 18, 20 and 23 for failing to particularly point out and distinctly claim the invention as required by 35 U.S.C. § 112, paragraph 2. Applicant respectfully traverses the rejection for at least the reasons stated below.

With regard to claim 6, the Action states that the use of P and M are confused. Applicant has amended claim 6 above to clearly illustrate that a subset P of spread substreams M, which occur at the beginning of the set of spread substreams M, is also repeated at the end of the set of spread substreams M as described above.

Accordingly, Applicant believes that the terms P and M are adequately described and distinctly claimed. Applicant, therefore, respectfully requests withdrawal of the rejection.

Claim 7 is rejected as being based on rejected claim 6, which is not indefinite for at least the reasons stated above. Applicant, therefore, respectfully requests withdrawal of the rejection.

With regard to claim 12, the Action states that use of the term "efficiency" is not clear. Applicant has amended claim 12 above to clearly illustrate that it is the signal to noise ratio at the output of the mismatched filter that is greater than or equal to 60% of the output of a matched filter as described on page 16, lines 23-28.

Accordingly, Applicant believes that the subject matter of claim 12 is adequately described and distinctly claimed. Applicant, therefore, respectfully requests withdrawal of the rejection.

With regard to claim 13, the Action states that use of the term "substantially" is not clear. Applicant traverses this rejection because Applicant believes that specification makes clear to one of skill in the art what is meant by a "substantially" flat spectral response. On page 17, beginning at line 4, it is clearly stated that a variety of codes can be used for the common code, but that codes with a substantially flat spectral analysis are preferred. By way of example, the

specification then notes that Barker codes, or codes of greater length and slightly greater aperiodic autocorrelation, are suitable. Thus, one of skill in the art would clearly understand that codes that result in a spectral analysis that is approximately as flat as, or flatter than, that produced by, e.g., a Barker code, are substantially flat for purposes of the claimed invention.

Accordingly, Applicant believes that the subject matter of claim 13 is adequately described and distinctly claimed. Applicant, therefore, respectfully requests withdrawal of the rejection.

With regard to claim 15, the Action states that use of the term "substantially" is not clear. Applicant traverses this rejection. Applicant believes that one of skill in the art would clearly understand that while it is desirable to use the entire bandwidth available, guard band requirements and filter roll off characteristics make it impossible to do so. One of skill in the art would understand that the entire available bandwidth cannot be used, one would design the system to use as much of the bandwidth as possible. Accordingly, one of skill in the art would understand that substantially means as much of the bandwidth as possible.

Accordingly, Applicant believes that the subject matter of claim 15 is adequately described and distinctly claimed. Applicant, therefore, respectfully requests withdrawal of the rejection.

Applicant believes that claim 18 is clearly described and distinctly claimed for at least the reasons stated above with regard to claim 12. Applicant, therefore, respectfully requests withdrawal of the rejection.

Applicant believes that claim 20 is clearly described and distinctly claimed for at least the reasons stated above with regard to claim 13. Applicant, therefore, respectfully requests withdrawal of the rejection.

Applicant believes that claim 23 is clearly described and distinctly claimed for at least the reasons stated above with regard to claim 6. Applicant, therefore, respectfully requests withdrawal of the rejection.

Claim Rejections Under § 103

Paragraph 11 of the Action rejects claims 1 and 13-15 under 35 U.S.C. 103(a) as being unpatentable in view of Schilling (U.S. Patent 6,078,576) in further view of Scott (U.S. Patent 6,338,997). Applicant has amended claim 1 so that it now corresponds to original claim 9, which the Action indicates is allowable over the art of record. Applicant, therefore, respectfully requests withdrawal of the rejection as to amended independent claim 1. Applicant further requests withdrawal of the rejection as to claims 13-15, because they depend from independent claim 1.

Paragraph 12 of the Action rejects claims 2-3 and 11 under 35 U.S.C. 103(a) as being unpatentable in view of Schilling in further view of Scott and Cafarella (U.S. Patent 5,809,060). Claim 2 has been cancelled in the above amendments thereby rendering the rejection moot as to claim 2. Applicant, therefore, respectfully request withdrawal of the rejection. The canceling of claim 2 should not be seen as agreement by Applicant with the rejections stated in the Action. Applicant reserves the right to pursue any patentable subject matter contained in claim 2, and to traverse any applicable rejections made in the Action, at a later time.

Applicant respectfully requests withdrawal of the rejection as to claims 3 and 11, because they depend from independent claim 1, which as explained is allowable over the art of record.

Paragraph 13 of the Action rejects claims 4 under 35 U.S.C. 103(a) as being unpatentable in view of Schilling in further view of Cafarella and O'Shea (U.S. Patent 6,563,856). Applicant

respectfully requests withdrawal of the rejection as to claim 4, because it depends from independent claim 1.

Paragraph 14 of the Action rejects claims 16, 20-22, and 26 under 35 U.S.C. 103(a) as being unpatentable in view of Schilling in further view of Cafarella. Claim 26 has been cancelled in the above amendments thereby rendering the rejection moot as to claim 26. Applicant, therefore, respectfully request withdrawal of the rejection. The canceling of claim 26 should not be seen as agreement by Applicant with the rejections stated in the Action. Applicant reserves the right to pursue any patentable subject matter contained in claim 26, and to traverse any applicable rejections made in the Action, at a later time.

Applicant has amended claim 16 so that it now corresponds to original claim 25, which the Action indicates is allowable over the art of record. Applicant, therefore, respectfully requests withdrawal of the rejection as to amended independent claim 16. Applicant further requests withdrawal of the rejection as to claims 20-22, because they depend from independent claim 16.

Paragraph 15 of the Action rejects claims 17 under 35 U.S.C. 103(a) as being unpatentable in view of Schilling in further view of Cafarella and Scott. Applicant respectfully requests withdrawal of the rejection as to claim 17, because it depends from independent claim 16.

Paragraph 16 of the Action rejects claims 19 under 35 U.S.C. 103(a) as being unpatentable in view of Schilling in further view of Cafarella and O'Shea. Applicant respectfully requests withdrawal of the rejection as to claim 19, because it depends from independent claim 16.

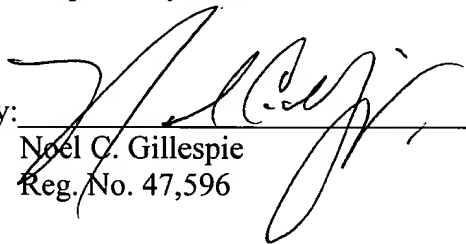
Paragraph 17 of the Action rejects claims 24 under 35 U.S.C. 103(a) as being unpatentable in view of Schilling in further view of Cafarella and He. Applicant respectfully requests withdrawal of the rejection as to claim 24, because it depends from independent claim 16.

CONCLUSION

Based on the above remarks, Applicant believes that the claims are in condition for allowance and such is respectfully requested. Prior to the Amendment there were 2 independent claims and 26 total claims. After the Amendment, there are 2 independent claims and 22 total claims. Applicant hereby petitions for a three-month extension of time under 37 CFR § 1.136(a). With the granting of said extension, it is believed that this response is timely filed. It is our understanding that the fee required for the Petition for Extension of Time is \$475.00. No additional fees for additional claims is believed to be due, but the Commissioner is hereby authorized to charge any additional fees required by this response to our Deposit Account No. **50-2613** (Order No. 45389.00002.UTL1.P1068).

Respectfully Submitted,

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